

WHAT IS CLAIMED IS:

- 005497-064500
- ① A method for detection of carcinoembryonic antigens having a modified sugar chain structure which comprises using an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens.
 - ② A method for detection of carcinoembryonic antigens having a modified sugar chain structure which comprises measuring an amount of a complex of carcinoembryonic antigens, an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens.
 - ③ A method for detection of carcinoembryonic antigens having a modified sugar chain structure which comprises
reacting a sample with an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens to give a complex of carcinoembryonic antigens, the specific antibody and the protein, and
measuring an amount of the complex.
 - ④ A method according to any one of Claims 1 to 3, wherein the protein is an antibody or a lectin.
 5. A method according to Claim 4, wherein the antibody is one recognizing a sugar chain containing a fucose residue and/or a sialic acid residue.
 - ⑥ A method according to Claim 4, wherein the antibody is an anti-Lewis type sugar chain antibody or an anti-sialyl Lewis type sugar chain antibody.

005799-2340500

7. A method according to Claim 6, wherein the anti-Lewis type sugar chain antibody is an anti-Le^a antibody, an anti-Le^b antibody, an anti-Le^x antibody or an anti-Le^y antibody.

8. A method according to Claim 6, wherein the anti-sialyl Lewis type sugar chain antibody is an anti-S-Le^a antibody or an anti-S-Le^x antibody.

9. A method according to Claim 4, wherein the lectin is an L-fucose binding lectin, a D-galactose or an N-acetyl-D-galactosamine binding lectin, a D-mannose binding lectin, an N-acetylglucosamine binding lectin or a sialic acid binding lectin.

10. A method according to Claim 4, wherein the lectin is Concanavalin A, *Ricinus communis* agglutinin, *Lens culinaris* agglutinin or Phytohemagglutinin.

11. A method for detecting a cancer which comprises using an amount of a carcinoembryonic antigens having a modified sugar chain structure as an indicator for the detection.

12. A method for detecting a cancer which comprises measuring an amount of a complex of carcinoembryonic antigens, an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens, and using the amount as an indicator for the detection.

13. A method for detecting a cancer which comprises measuring an amount of a complex of carcinoembryonic antigens, an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens, and an amount of a complex of carcinoembryonic antigens and the antibody, and using the amounts as an indicator for the detection.

14. A method for detecting a cancer which comprises

reacting a sample containing carcinoembryonic antigens with an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens to give a complex I of carcinoembryonic antigens and the antibody and a complex II of carcinoembryonic antigens, the antibody and the protein,

measuring an amount of the complex I and an amount of the complex II, and

using the amounts as an indicator for the detection.

15. A method for detecting a cancer which comprises

reacting a sample containing carcinoembryonic antigens with an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens to give a complex I of carcinoembryonic antigens and the antibody and a complex II of carcinoembryonic antigens, the antibody and the protein,

measuring each independently an amount of the complex I and an amount of the complex II,

calculating a ratio of the amount of the complex II relative to a total amount of the complex I and complex II, and

using the ratio as an indicator for the detection.

16. A method according to any one of Claim 12 to 15, wherein the protein is an antibody or a lectin.

17. A method according to Claim 16, wherein the antibody is one recognizing a sugar chain containing fucose residue and/or a sialic acid residue.

18. A method according to Claim 16, wherein the antibody is an anti-Lewis type sugar chain antibody or an anti-sialyl Lewis type sugar chain antibody.

19. A method according to Claim 18, wherein the anti-Lewis type sugar chain antibody is an anti-Le^a antibody, an anti-Le^b antibody, an

anti-Le^x antibody or an anti-Le^y antibody.

20. A method according to Claim 18, wherein the anti-sialyl Lewis type sugar chain antibody is an anti-S-Le^a antibody or an anti-S-Le^x antibody.

21. A method according to Claim 16, wherein the lectin is an L-fucose binding lectin, a D-galactose or an N-acetyl-D-galactosamine binding lectin, a D-mannose binding lectin, an N-acetylglucosamine binding lectin or a sialic acid binding lectin.

22. A method according to Claim 16, wherein the lectin is Concanavalin A, *Ricinus communis* agglutinin, *Lens culinaris* agglutinin or Phytohemagglutinin.

23. A kit for detection of carcinoembryonic antigens having a modified sugar chain structure which comprises an antibody against a constant region of carcinoembryonic antigens and a protein capable of recognizing a modified sugar chain structure of carcinoembryonic antigens.

24. A kit according to Claim 23, wherein the protein is an antibody or a lectin.

25. A kit according to Claim 24, wherein the antibody is one recognizing a sugar chain containing a fucose residue and/or a sialic acid residue.

26. A kit according to Claim 24, wherein the antibody is an anti-Lewis type sugar chain antibody or an anti-sialyl Lewis type sugar chain antibody.

27. A kit according to Claim 26, wherein the anti-Lewis type sugar chain antibody is an anti-Le^a antibody, an anti-Le^b antibody, an anti-Le^x antibody or an anti-Le^y antibody.

28. A kit according to Claim 26, wherein the anti-sialyl Lewis type

sugar chain antibody is an anti-S-Le^a antibody or an anti-S-Le^x antibody.

29. A kit according to Claim 24, wherein the lectin is an L-fucose binding lectin, a D-galactose or an N-acetyl-D-galactosamine binding lectin, a D-mannose binding lectin, an N-acetylglucosamine binding lectin or a sialic acid binding lectin.

30. A kit according to Claim 24, wherein the lectin is Concanavalin A, *Ricinus communis* agglutinin, *Lens culinaris* agglutinin or Phytohemagglutinin.

ADD
A3

005190 22516560